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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/637,206	OROFINO, DONALD P.	
	Examiner	Art Unit	
	KANDASAMY THANGAVELU	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,19-34,36-51,53-70 and 72-92* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17,19-34,36-51,53-70 and 72-92* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *August 7, 2003* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to the Applicant's Response mailed on July 21, 2008. Claims 1-2, 5, 19, 22, 36-37, 53-54, 57, 72-74, 76-83, 85-86, 88-89 and 91 were amended. Claim 75 was canceled. Claims 1-17, 19-34, 36-51, 53-70 and 72-92 of the application are pending. This office action is made non-final.

Claim Objections

2. The following is a quotation of 37 C.F.R § 1.75 (d)(1):

> The claim or claims must conform to the invention as set forth in the remainder of the specification and terms and phrases in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.

3. Claims 72-74 are objected to because of the following informalities:

In Claim 72, Line 10, "initializing the simulation environment" appears to be incorrect and it appears that it should be "initializing the simulation application", as computer program instructions are provided for a simulation application and not for a simulation environment.

In Claim 73, Line 10, "initializing the simulation environment" appears to be incorrect and it appears that it should be "initializing the simulation application", as computer program instructions are provided for a simulation application and not for a simulation environment.

In Claim 74, Line 10, “initializing the simulation environment” appears to be incorrect and it appears that it should be “initializing the simulation application”, as computer program instructions are provided for a simulation application and not for a simulation environment.

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 7, 13, 24, 30, 41, 47, 59, 65, 82 and 87 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 7, Line 2, there is insufficient antecedent basis for "the two or more data collection instruments ".

In Claim 13, Lines 1-3, there are insufficient antecedent bases for "synchronizing the two or more data modules”, “the selected of the two or more data modules”, and “synchronize execution of one or more functions”.

In Claim 24, Line 2, there is insufficient antecedent basis for "the two or more data collection instruments ".

In Claim 30, Lines 1-3, there are insufficient antecedent bases for "synchronizing the two or more data modules", "the selected of the two or more data modules", and "synchronize execution of one or more functions".

In Claim 41, Line 2, there is insufficient antecedent basis for "the two or more data collection instruments ".

In Claim 47, Lines 1-3, there are insufficient antecedent bases for "synchronizing the two or more data modules", "the selected of the two or more data modules", and "synchronize execution of one or more functions".

In Claim 59, Line 2, there is insufficient antecedent basis for "the two or more data collection instruments ".

In Claim 65, Lines 1-3, there are insufficient antecedent bases for "synchronizing the two or more data modules", "the selected of the two or more data modules", and "synchronize execution of one or more functions".

In Claim 82, Line 3, there is insufficient antecedent basis for "the two or more data collection instruments ".

In Claim 87, Lines 1-3, there are insufficient antecedent bases for "the method".

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

7. Claims 1, 5-6, 8, 13-14, 36, 40, 42, 47-48, 72, 74, 76, 80-81, 83 and 88-89 are rejected under 35 U.S.C. § 102(e) as being anticipated by **Billemaz et al.** (U.S. Patent Application 2004/0093197).

7.1 **Billemaz et al.** teaches mechanism to synchronize probes during simulation of system level designs. Specifically, as per claim 1, **Billemaz et al.** teaches in a simulation environment, a computer-implemented method for controlling collection of data generated by a dynamic system model (Abstract, L1-2; Fig. 2; Page 1, Para 0004, L1-3; Page 1, Para 0010, L9-15), comprising:

providing the dynamic system model in the simulation environment on a computer system (Abstract, L1-2; Page 1, Para 0001, L3-12);

providing a controller system separate from the dynamic system model on the computer system (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15), the controller system including:

at least two data modules, the data modules communicatively coupled to collect data from the dynamic system model (Abstract, L1-2; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15);

one or more functions, the one or more functions executed by at least two of the data modules (Page 1, Para 0001, L3-12; Page 1, Para 0011, L1-3 and L8-11), and

at least one controller controlling two or more of the data modules (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15);

activating the dynamic system model, thereby generating data (Page 1, Para 0001, L3-12; Page 1, Para 0011, L1-3 and L8-11); and

controlling two or more of the data modules to simultaneously execute at least one of the functions to achieve synchronization of at least one of collection or analysis of the generated data at a point in time (Abstract, L2-11; Page 1, Para 0004, L1-9; Page 1, Para 0010, L9-15), the controlling performed using the at least one controller (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15).

Per claim 5: **Billemaz et al.** teaches that the at least one of the functions includes a suspend function (Abstract, L5-11), and where the controlling simultaneously executes the suspend function at the two or more data modules to synchronously pause collection of the generated data by the controlled data modules (Abstract, L2-11; Page 1, Para 0011, L3-11; Page 2, Para 0016, L1-6; Para 0019, L7-16), while the dynamic system model continues to operate (Page 2, Para 0012, L7-9).

Per claim 6: **Billemaz et al.** teaches providing an interface having a communication port for communicating with each of the two or more data modules (Abstract, L1-2 and 7-11; Fig. 2, Item 275; Page 1, Para 0010, L9-11; Para 0011, L3-8; Page 2, Para 0019, L1-3 and L10-16).

Per claim 8: **Billemaz et al.** teaches defining data history parameters utilizing a data history function (Abstract, 7-16; Fig. 2, Item 275; Page 1, Para 0010, L1-3; Para 0011, L6-15).

Per claim 13: **Billemaz et al.** teaches synchronizing the two or more data modules comprises conveying to the selected of the two or more data modules a direction to synchronize execution of one or more functions at the selected of the two or more data modules by utilizing a broadcasting function (Page 2, Para 0019, L4-16).

Per claim 14: **Billemaz et al.** teaches utilizing an event based trigger to initiate a data module action (Page 1, Para 0004, L3-9; Page 1, Para 0010, L8-11; Page 1, Para 0011, L1-7; Page 2, Para 0020, L4-7).

7.2 As per claim 36, **Billemaz et al.** teaches in a simulation environment, a computer-implemented method for controlling collection of data generated by a dynamic system model (Abstract, L1-2; Fig. 2; Page 1, Para 0004, L1-3; Page 1, Para 0010, L9-15), comprising:

providing the dynamic system model in the simulation environment on a computer system (Abstract, L1-2; Page 1, Para 0001, L3-12);

providing a controller system separate from the dynamic system model on the computer system (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15), the controller system including:

at least two data modules, the data modules communicatively coupled to collect data from the dynamic system model (Abstract, L1-2; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15);

a suspend function executed by at least two of the data modules (Abstract, L5-11), and

at least one controller controlling two or more of the data modules (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15);

activating the dynamic system model, thereby generating data (Page 1, Para 0001, L3-12; Page 1, Para 0011, L1-3 and L8-11); and

controlling two or more of the data modules to simultaneously execute the suspend function to synchronously pause collection of the generated data by the controlled data modules (Abstract, L2-11; Page 1, Para 0011, L3-11; Page 2, Para 0016, L1-6; Para 0019, L7-16), while the dynamic system model continues to operate (Page 2, Para 0012, L7-9), the controlling performed using the at least one controller (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15).

Per claim 40: **Billemaz et al.** teaches providing an interface having a communication port for communicating with each of the two or more data modules (Abstract, L1-2 and 7-11; Fig. 2, Item 275; Page 1, Para 0010, L9-11; Para 0011, L3-8; Page 2, Para 0019, L1-3 and L10-16).

Per claim 42: **Billemaz et al.** teaches defining data history parameters utilizing a data history function (Abstract, 7-16; Fig. 2, Item 275; Page 1, Para 0010, L1-3; Para 0011, L6-15).

Per claim 47: **Billemaz et al.** teaches synchronizing the two or more data modules comprises conveying to the selected of the two or more data modules a direction to synchronize execution of one or more functions at the selected of the two or more data modules by utilizing a broadcasting function (Page 2, Para 0019, L4-16).

Per claim 48: **Billemaz et al.** teaches utilizing an event based trigger to initiate a data module action (Page 1, Para 0004, L3-9; Page 1, Para 0010, L8-11; Page 1, Para 0011, L1-7; Page 2, Para 0020, L4-7).

7.3 As per claim 72, **Billemaz et al.** teaches in a simulation environment, a system for controlling collection of data generated by a dynamic system model (Abstract, L1-2; Fig. 2; Page 1, Para 0004, L1-3; Page 1, Para 0010, L9-15; Page 2, Para 019, L4-16), the system comprising:

an electronic device including a memory for storing:

computer program instructions (Page 2, Para 019, L4-16) for a simulation application that includes the dynamic system model (Abstract, L1-2; Page 1, Para 0001, L3-12); and

data generated by the dynamic system model (Abstract, L1-2; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15), a processor for executing:

the stored computer program instructions, the computer program instructions including instructions for initializing the simulation environment (Page 2, Para 019, L4-16); and

instructions for a controller system separate from the dynamic system model (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15) the controller system including:

at least two data modules, the data modules communicatively coupled to collect data from the dynamic system model (Abstract, L1-2; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15);

one or more functions, the one or more functions executed by at least two of the data modules (Page 1, Para 0001, L3-12; Page 1, Para 0011, L1-3 and L8-11), and

at least one controller to control two or more of the data modules (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15), to simultaneously execute at least one of the functions to achieve synchronization of at least one of collection or analysis of the generated data at a point in time (Abstract, L2-11; Page 1, Para 0004, L1-9; Page 1, Para 0010, L9-15).

7.4 As per claim 74, **Billemaz et al.** teaches in a simulation environment, a system for controlling collection of data generated by a dynamic system model (Abstract, L1-2; Fig. 2; Page 1, Para 0004, L1-3; Page 1, Para 0010, L9-15; Page 2, Para 019, L4-16), the system comprising:

an electronic device including a memory for storing:

computer program instructions (Page 2, Para 019, L4-16) for a simulation application that includes the dynamic system model (Abstract, L1-2; Page 1, Para 0001, L3-12); and

data generated by the dynamic system model (Abstract, L1-2; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15), a processor for executing:

the stored computer program instructions, the computer program instructions including instructions for initializing the simulation environment (Page 2, Para 019, L4-16); and

instructions for a controller system separate from the dynamic system model (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15) the controller system including:

at least two data modules, the data modules communicatively coupled to collect data from the dynamic system model (Abstract, L1-2; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15);

a suspend function executed by at least two of the data modules (Abstract, L5-11), and

at least one controller to control two or more of the data modules (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15), to simultaneously execute the suspend function to synchronously pause collection of the generated data by the controlled data modules (Abstract, L2-11; Page 1, Para 0011, L3-11; Page 2, Para 0016, L1-6; Para 0019, L7-16), while the dynamic system model continues to operate (Page 2, Para 0012, L7-9).

7.5 As per claims 76, 80, 81, 83, and 88-89, these are rejected based on the same reasoning as claims 1, 5, 6, 8, 13 and 14, supra. Claims 76, 80, 81, 83, and 88-89 are computer medium claims reciting the same limitations as claims 1, 5, 6, 8, 13 and 14 supra, as taught throughout by **Billemaz et al.**

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

9. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 2-4, 7, 12, 15, 19-25, 29-32, 37-39, 41, 46, 49, 73, 77-79, 82, 87 and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Billemaz et al.** (U.S. Patent Application 2004/0093197) in view of **Guiberson et al.** (U.S. Patent 6,088,029).

10.1 As per claim 2, **Billemaz et al.** teaches the method of claim 1. **Billemaz et al.** teaches the controlling simultaneously executes the function at the two or more data modules synchronously (Abstract, L2-11; Page 1, Para 0004, L1-9; Page 1, Para 0010, L9-15); the dynamic system model continues to execute and the generated data continues to be collected by the controlled data modules (Page 2, Para 0012, L7-9).

Billemaz et al. does not expressly teach the at least one of the functions includes a snapshot function; and where the controlling simultaneously executes the snapshot function at

the two or more data modules to synchronously freeze a display of data collected by the controlled data modules, the freezing occurring while the dynamic system model continues to execute. **Guiberson et al.** teaches the at least one of the functions includes a snapshot function; and where the controlling executes the snapshot function at the data modules to freeze a display of data collected by the controlled data modules, the freezing occurring while the dynamic system model continues to execute (Abstract; Fig. 4, Item 410; CL1, L22-29; CL4, L58-62; CL5, L20-28). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to combine the method of **Billemaz et al.** with the method of **Guiberson et al.** that included the at least one of the functions including a snapshot function; and where the controlling executed the snapshot function at the data modules to freeze a display of data collected by the controlled data modules, the freezing occurring while the dynamic system model continued to execute, because that would allow user viewing the display of the data collected in a control window (Abstract, L1-4) and adjusting the parameters that control acquisition of data (Fig. 4, Item 415; CL1, L36-38).

10.2 As per claim 3, **Billemaz et al.** and **Guiberson et al.** teach the method of claim 2. **Billemaz et al.** teaches that data continues to be collected (Page 2, Para 0012, L7-9).

Billemaz et al. does not expressly providing the display of data collected without updating the display. **Guiberson et al.** teaches providing the display of data collected without updating the display (Abstract, L1-4; Fig. 4, Item 410; CL1, L22-29; CL4, L58-62; CL5, L20-28).

Per claim 4: **Billemaz et al.** does not expressly teach manipulating the display of data collected while data continues to be collected. **Guiberson et al.** teaches manipulating the display of data collected while data continues to be collected (Abstract, L1-4; Fig. 4, Item 415; CL1, L36-38).

Per claim 7: **Billemaz et al.** teaches data collected by the two or more data collection instruments (Abstract, L2-11; Page 1, Para 0004, L1-9; Page 1, Para 0010, L9-15). **Billemaz et al.** does not expressly teach directing a review of data collected by utilizing a review function. **Guiberson et al.** teaches directing a review of data collected by the two or more data collection instruments by utilizing a review function (Abstract; Fig. 4, Item 415; CL1, L36-38).

10.2 As per claim 12, **Billemaz et al.** teaches the method of claim 1. **Billemaz et al.** teaches a time tracking function that indicates of a time history of data collected (Abstract, 7-16; Fig. 2, Item 275; Page 1, Para 0010, L1-3; Para 0011, L6-15). **Billemaz et al.** does not expressly teach providing a time tracking function that directs a graphical display indication of a time history of data collected. **Guiberson et al.** teaches function that directs a graphical display indication of a time history of data collected. (Abstract, L1-4; Fig. 4, Item 415; CL1, L36-38).

Per claim 15: **Billemaz et al.** does not expressly teach that the simulation environment comprises at least one of a graphical, textual, data flow, time based, and event based environments. **Guiberson et al.** teaches that the simulation environment comprises at least one

of a graphical, textual, data flow, time based, and event based environments (Abstract, L1-4; Fig. 2; Fig. 3; CL1, L36-38: It is inherent that simulations produce event based and time based data).

10.3 As per claim 19, **Billemaz et al.** teaches in a simulation environment, a computer-implemented method for controlling collection of data generated by a dynamic system model (Abstract, L1-2; Fig. 2; Page 1, Para 0004, L1-3; Page 1, Para 0010, L9-15), comprising:

providing the dynamic system model in the simulation environment on a computer system (Abstract, L1-2; Page 1, Para 0001, L3-12);

providing a controller system separate from the dynamic system model on the computer system (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15), the controller system including:

at least two data modules, the data modules communicatively coupled to collect data from the dynamic system model (Abstract, L1-2; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15); and

at least one controller controlling two or more of the data modules (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15);

activating the dynamic system model, thereby generating data (Page 1, Para 0001, L3-12; Page 1, Para 0011, L1-3 and L8-11), the controlling performed using the at least one controller (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15).

Billemaz et al. teaches controlling two or more of the data modules to simultaneously execute the function synchronously (Abstract, L2-11; Page 1, Para 0004, L1-9; Page 1, Para 0010, L9-15); the dynamic system model continues to execute and the generated data continues to be collected by the controlled data modules (Page 2, Para 0012, L7-9). **Billemaz et al.** does not expressly teach a snapshot function executed by at least two of the data modules; and controlling two or more of the data modules to simultaneously execute the snapshot function to synchronously freeze a display of data collected by the controlled data modules, the freezing occurring while the dynamic system model continues to execute. **Guiberson et al.** teaches a snapshot function executed by the data modules; and controlling the data modules to execute the snapshot function to freeze a display of data collected by the controlled data modules, the freezing occurring while the dynamic system model continues to execute (Abstract; Fig. 4, Item 410; CL1, L22-29; CL4, L58-62; CL5, L20-28).

10.4 As per claim 20, **Billemaz et al.** and **Guiberson et al.** teach the method of claim 19. **Billemaz et al.** teaches that data continues to be collected (Page 2, Para 0012, L7-9).

Billemaz et al. does not expressly providing the display of data collected without updating the display. **Guiberson et al.** teaches providing the display of data collected without updating the display (Abstract, L1-4; Fig. 4, Item 410; CL1, L22-29; CL4, L58-62; CL5, L20-28).

Per claim 21: **Billemaz et al.** does not expressly teach manipulating the display of data collected while data continues to be collected. **Guiberson et al.** teaches manipulating the

display of data collected while data continues to be collected (Abstract, L1-4; Fig. 4, Item 415; CL1, L36-38).

Per claim 22: **Billemaz et al.** teaches that the at least one of the functions includes a suspend function (Abstract, L5-11), and where the controlling simultaneously executes the suspend function at the two or more data modules to synchronously pause collection of the generated data by the controlled data modules (Abstract, L2-11; Page 1, Para 0011, L3-11; Page 2, Para 0016, L1-6; Para 0019, L7-16), while the dynamic system model continues to operate Page 2, Para 0012, L7-9).

Per claim 23: **Billemaz et al.** teaches providing an interface having a communication port for communicating with each of the two or more data modules (Abstract, L1-2 and 7-11; Fig. 2, Item 275; Page 1, Para 0010, L9-11; Para 0011, L3-8; Page 2, Para 0019, L1-3 and L10-16).

Per claim 24: **Billemaz et al.** teaches data collected by the two or more data collection instruments (Abstract, L2-11; Page 1, Para 0004, L1-9; Page 1, Para 0010, L9-15). **Billemaz et al.** does not expressly teach directing a review of data collected by utilizing a review function. **Guiberson et al.** teaches directing a review of data collected by the two or more data collection instruments by utilizing a review function (Abstract; Fig. 4, Item 415; CL1, L36-38).

Per claim 25: **Billemaz et al.** teaches defining data history parameters utilizing a data history function (Abstract, 7-16; Fig. 2, Item 275; Page 1, Para 0010, L1-3; Para 0011, L6-15).

10.5 As per claim 29, **Billemaz et al.** and **Guiberson et al.** teach the method of claim 19. **Billemaz et al.** teaches a time tracking function that indicates of a time history of data collected (Abstract, 7-16; Fig. 2, Item 275; Page 1, Para 0010, L1-3; Para 0011, L6-15). **Billemaz et al.** does not expressly teach providing a time tracking function that directs a graphical display indication of a time history of data collected. **Guiberson et al.** teaches function that directs a graphical display indication of a time history of data collected (Abstract, L1-4; Fig. 4, Item 415; CL1, L36-38).

Per claim 30: **Billemaz et al.** teaches synchronizing the two or more data modules comprises conveying to the selected of the two or more data modules a direction to synchronize execution of one or more functions at the selected of the two or more data modules by utilizing a broadcasting function (Page 2, Para 0019, L4-16).

Per claim 31: **Billemaz et al.** teaches utilizing an event based trigger to initiate a data module action (Page 1, Para 0004, L3-9; Page 1, Para 0010, L8-11; Page 1, Para 0011, L1-7; Page 2, Para 0020, L4-7).

Per claim 32: **Billemaz et al.** does not expressly teach that the simulation environment comprises at least one of a graphical, textual, data flow, time based, and event based environments. **Guiberson et al.** teaches that the simulation environment comprises at least one

of a graphical, textual, data flow, time based, and event based environments (Abstract, L1-4; Fig. 2; Fig. 3; CL1, L36-38: It is inherent that simulations produce event based and time based data).

10.6 As per claim 37, **Billemaz et al.** teaches the method of claim 36. **Billemaz et al.** teaches controlling a second two or more of the data modules to simultaneously execute a function synchronously (Abstract, L2-11; Page 1, Para 0004, L1-9; Page 1, Para 0010, L9-15); the dynamic system model continues to execute and the generated data continues to be collected by the controlled data modules (Page 2, Para 0012, L7-9), the controlling performed using the at least one controller (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15).

Billemaz et al. does not expressly teach controlling a second two or more of the data modules to simultaneously execute a snapshot function to synchronously freeze a display of data collected by the second two or more data modules, the freezing occurring while the dynamic system model continues to execute. **Guiberson et al.** teaches controlling a second two or more of the data modules to execute a snapshot function to freeze a display of data collected by the second two or more data modules, the freezing occurring while the dynamic system model continues to execute (Abstract; Fig. 4, Item 410; CL1, L22-29; CL4, L58-62; CL5, L20-28).

10.7 As per claim 38, **Billemaz et al.** and **Guiberson et al.** teach the method of claim 36. **Billemaz et al.** teaches that data continues to be collected (Page 2, Para 0012, L7-9).

Billemaz et al. does not expressly providing the display of data collected without updating the display. **Guiberson et al.** teaches providing the display of data collected without updating the display (Abstract, L1-4; Fig. 4, Item 410; CL1, L22-29; CL4, L58-62; CL5, L20-28).

Per claim 39: **Billemaz et al.** does not expressly teach manipulating the display of data collected while data continues to be collected. **Guiberson et al.** teaches manipulating the display of data collected while data continues to be collected (Abstract, L1-4; Fig. 4, Item 415; CL1, L36-38).

Per claim 41: **Billemaz et al.** teaches data collected by the two or more data collection instruments (Abstract, L2-11; Page 1, Para 0004, L1-9; Page 1, Para 0010, L9-15). **Billemaz et al.** does not expressly teach directing a review of data collected by utilizing a review function. **Guiberson et al.** teaches directing a review of data collected by the two or more data collection instruments by utilizing a review function (Abstract; Fig. 4, Item 415; CL1, L36-38).

10.8 As per claim 46, **Billemaz et al.** teaches the method of claim 36. **Billemaz et al.** teaches a time tracking function that indicates of a time history of data collected (Abstract, 7-16; Fig. 2, Item 275; Page 1, Para 0010, L1-3; Para 0011, L6-15). **Billemaz et al.** does not expressly teach providing a time tracking function that directs a graphical display indication of a time history of data collected. **Guiberson et al.** teaches function that directs a graphical display indication of a time history of data collected (Abstract, L1-4; Fig. 4, Item 415; CL1, L36-38).

Per claim 49: **Billemaz et al.** does not expressly teach that the simulation environment comprises at least one of a graphical, textual, data flow, time based, and event based environments. **Guiberson et al.** teaches that the simulation environment comprises at least one of a graphical, textual, data flow, time based, and event based environments (Abstract, L1-4; Fig. 2; Fig. 3; CL1, L36-38: It is inherent that simulations produce event based and time based data).

10.9 As per claim 73, **Billemaz et al.** teaches in a simulation environment, a system for controlling collection of data generated by a dynamic system model (Abstract, L1-2; Fig. 2; Page 1, Para 0004, L1-3; Page 1, Para 0010, L9-15; Page 2, Para 019, L4-16), the system comprising:

an electronic device including a memory for storing:

computer program instructions (Page 2, Para 019, L4-16) for a simulation application that includes the dynamic system model (Abstract, L1-2; Page 1, Para 0001, L3-12); and

data generated by the dynamic system model (Abstract, L1-2; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15), a processor for executing:

the stored computer program instructions, the computer program instructions including instructions for initializing the simulation environment (Page 2, Para 019, L4-16); and

instructions for a controller system separate from the dynamic system model (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15) the controller system including:

at least two data modules, the data modules communicatively coupled to collect data from the dynamic system model (Abstract, L1-2; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15); and

at least one controller to control two or more of the data modules (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15).

Billemaz et al. teaches controlling two or more of the data modules to simultaneously execute the function synchronously (Abstract, L2-11; Page 1, Para 0004, L1-9; Page 1, Para 0010, L9-15); the dynamic system model continues to execute and the generated data continues to be collected by the controlled data modules (Page 2, Para 0012, L7-9). **Billemaz et al.** does not expressly teach a snapshot function executed by at least two of the data modules; and controlling two or more of the data modules to simultaneously execute the snapshot function to synchronously freeze a display of data collected by the controlled data modules, the freezing occurring while the dynamic system model continues to execute. **Guiberson et al.** teaches a snapshot function executed by the data modules; and controlling the data modules to execute the snapshot function to freeze a display of data collected by the controlled data modules, the freezing occurring while the dynamic system model continues to execute (Abstract; Fig. 4, Item 410; CL1, L22-29; CL4, L58-62; CL5, L20-28).

10.10 As per claims 77-79, 82, 87 and 90, these are rejected based on the same reasoning as claim 2-4, 7, 12 and 15 supra. Claims 77-79, 82, 87 and 90 are computer medium claims reciting

the same limitations as claims 2-4, 7, 12 and 15, as taught throughout by **Billemaz et al.** and **Guiberson et al.**

11. Claims 9, 43 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Billemaz et al.** (U.S. Patent Application 2004/0093197) in view of **Chen et al.** (U.S. Patent 5,684,945), and further in view of **Mikurak** (U.S. Patent 7,130,807).

11.1 As per claim 9, **Billemaz et al.** teaches the method of claim 8. **Billemaz et al.** teaches the data history parameters comprise at least one of amount of memory allocation for storing data history (Page 1, Para 0002, L1-3).

Billemaz et al. does not expressly teach the data history parameters comprise at least one of amount of data history, types of data collected, signal attributes. **Chen et al.** teaches the data history parameters comprise at least one of amount of data history (CL23, L25-30), types of data collected, signal attributes (CL23, L31-36). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the method of **Billemaz et al.** with the method of **Chen et al.** that included the data history parameters comprising at least one of amount of data history, types of data collected, signal attributes, because that would allow actual values of data parameters to be kept according to the history property (CL23, L37-39).

Billemaz et al. and **Chen et al.** do not expressly teach that the data history parameters comprise at least one of data formats. **Mikurak** teaches that the data history parameters comprise at least one of data formats (CL29, L52-57). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the method of **Billemaz et al.** and **Chen**

et al. with the method of **Mikurak** that included that the data history parameters comprising at least one of data formats, because that would allow data to be presented in the form that could be recognized and manipulated (CL23, L37-39).

11.2 As per claim 43, **Billemaz et al.** teaches the method of claim 42. **Billemaz et al.** teaches the data history parameters comprise at least one of amount of memory allocation for storing data history (Page 1, Para 0002, L1-3).

Billemaz et al. does not expressly teach the data history parameters comprise at least one of amount of data history, types of data collected, signal attributes. **Chen et al.** teaches the data history parameters comprise at least one of amount of data history (CL23, L25-30), types of data collected, signal attributes (CL23, L31-36).

Billemaz et al. and **Chen et al.** do not expressly teach that the data history parameters comprise at least one of data formats. **Mikurak** teaches that the data history parameters comprise at least one of data formats (CL29, L52-57).

11.3 As per claim 84, it is rejected based on the same reasoning as claim 9, supra. Claim 84 is a computer medium claim reciting the same limitations as claim 9 supra, as taught throughout by **Billemaz et al., Chen et al.** and **Mikurak.**

12. Claims 10, 44 and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Billemaz et al.** (U.S. Patent Application 2004/0093197) in view of **Herbrich et al.** (U.S. Patent Application 2004/0266526).

12.1 As per claim 10, **Billemaz et al.** teaches the method of claim 1. **Billemaz et al.** does not expressly teach directing a buffering mode to be utilized during data collection from one of a circular buffering mode, a finite buffering mode, and a buffer extension mode by executing a data buffering mode function. **Herbrich et al.** teaches directing a buffering mode to be utilized during data collection from one of a circular buffering mode, a finite buffering mode, and a buffer extension mode by executing a data buffering mode function (Fig. 3; Page 3, Para 0041, L1-6 and L9-15; Page 3, Para 0042, L1-2; Fig. 5; Pages 3 and 4, Para 0046). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the method of **Billemaz et al.** with the method of **Herbrich et al.** that included directing a buffering mode to be utilized during data collection from one of a circular buffering mode, a finite buffering mode, and a buffer extension mode by executing a data buffering mode function, because that would allow a previously stored control value to be extracted from a location in the buffer indicated by the next buffer (Pages 3 and 4, Para 0046, L3-6).

12.2 As per claim 44, **Billemaz et al.** teaches the method of claim 36. **Billemaz et al.** does not expressly teach directing a buffering mode to be utilized during data collection from one of a circular buffering mode, a finite buffering mode, and a buffer extension mode by executing a data buffering mode function. **Herbrich et al.** teaches directing a buffering mode to be utilized during data collection from one of a circular buffering mode, a finite buffering mode, and a buffer extension mode by executing a data buffering mode function (Fig. 3; Page 3, Para 0041, L1-6 and L9-15; Page 3, Para 0042, L1-2; Fig. 5; Pages 3 and 4, Para 0046).

12.3 As per claim 85, it is rejected based on the same reasoning as claim 10, supra. Claim 85 is a computer medium claim reciting the same limitations as claim 10 supra, as taught throughout by **Billemaz et al.** and **Herbrich et al.**

13. Claims 11, 45 and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Billemaz et al.** (U.S. Patent Application 2004/0093197) in view of **Chen et al.** (U.S. Patent 5,684,945).

13.1 As per claim 11, **Billemaz et al.** teaches the method of claim 1. **Billemaz et al.** does not expressly teach a user utilizing a scroll function to scroll through previously collected data while the dynamic system model is operating. **Chen et al.** teaches a user utilizing a scroll function to scroll through previously collected data while the dynamic system model is operating (CL23, L40-46; CL23, L32-34).

13.2 As per claim 45, **Billemaz et al.** teaches the method of claim 36. **Billemaz et al.** does not expressly teach a user utilizing a scroll function to scroll through previously collected data while the dynamic system model is operating. **Chen et al.** teaches a user utilizing a scroll function to scroll through previously collected data while the dynamic system model is operating (CL23, L40-46; CL23, L32-34).

13.3 As per claim 86, it is rejected based on the same reasoning as claim 11, supra. Claim 86 is a computer medium claim reciting the same limitations as claim 11 supra, as taught throughout by **Billemaz et al.** and **Chen et al.**

14. Claims 16-17, 50-51 and 91-92 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Billemaz et al.** (U.S. Patent Application 2004/0093197) in view of **Eryilmaz et al.** (U.S. Patent Application 2003/0122826).

14.1 As per claim 16, **Billemaz et al.** teaches the method of claim 1. **Billemaz et al.** does not expressly teach that the two or more data modules are virtually formed using at least one of MATLAB, JAVA, C++, and object-oriented code. **Eryilmaz et al.** teaches that the two or more data modules are virtually formed using at least one of MATLAB, JAVA, C++, and object-oriented code (Page 1, Para 0013, L4-8; Page 2, Para 0026, L8-16; Page 2, Para 0028, L1-6; Page 3, Para 0031, L1-5). It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the method of **Billemaz et al.** with the method of **Eryilmaz et al.** that included the two or more data modules being virtually formed using at least one of MATLAB, JAVA, C++, and object-oriented code, because that would allow converting the graphical models and the textual source code into executable code, which could be used to perform simulation (Page 2, Para 0261, L12-16).

Per claim 17: **Billemaz et al.** does not expressly teach that the two or more data modules provide displays in the form of at least one of textual, graphical, multi -dimensional,

oscilloscope, and spectrum analyzer. **Eryilmaz et al.** teaches that the two or more data modules provide displays in the form of at least one of textual, graphical, multi -dimensional, oscilloscope, and spectrum analyzer (Page 3, Para 0031, L1-5; Page 1, Para 0002, L3-6; Page 1, Para 0009, L3-7; Page 2, Para 0026, L3-7 and L17-19; Page 3, Para 0038).

14.2 As per claim 50, **Billemaz et al.** teaches the method of claim 36. **Billemaz et al.** does not expressly teach that the two or more data modules are virtually formed using at least one of MATLAB, JAVA, C++, and object-oriented code. **Eryilmaz et al.** teaches that the two or more data modules are virtually formed using at least one of MATLAB, JAVA, C++, and object-oriented code (Page 1, Para 0013, L4-8; Page 2, Para 0026, L8-16; Page 2, Para 0028, L1-6; Page 3, Para 0031, L1-5).

Per claim 51: **Billemaz et al.** does not expressly teach that the two or more data modules provide displays in the form of at least one of textual, graphical, multi -dimensional, oscilloscope, and spectrum analyzer. **Eryilmaz et al.** teaches that the two or more data modules provide displays in the form of at least one of textual, graphical, multi -dimensional, oscilloscope, and spectrum analyzer (Page 3, Para 0031, L1-5; Page 1, Para 0002, L3-6; Page 1, Para 0009, L3-7; Page 2, Para 0026, L3-7 and L17-19; Page 3, Para 0038).

14.3 As per claims 91 and 92, these are rejected based on the same reasoning as claim 16-17, supra. Claims 91 and 92 are computer medium claims reciting the same limitations as claims 16-17, as taught throughout by **Billemaz et al.** and **Eryilmaz et al.**

15. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Billemaz et al.** (U.S. Patent Application 2004/0093197) in view of **Guiberson et al.** (U.S. Patent 6,088,029), and further in view of **Chen et al.** (U.S. Patent 5,684,945), and further in view of **Mikurak** (U.S. Patent 7,130,807).

15.1 As per claim 26, **Billemaz et al.** and **Guiberson et al.** teach the method of claim 25. **Billemaz et al.** teaches the data history parameters comprise at least one of amount of memory allocation for storing data history (Page 1, Para 0002, L1-3).

Billemaz et al. and **Guiberson et al.** do not expressly teach the data history parameters comprise at least one of amount of data history, types of data collected, signal attributes. **Chen et al.** teaches the data history parameters comprise at least one of amount of data history (CL23, L25-30), types of data collected, signal attributes (CL23, L31-36).

Billemaz et al., Guiberson et al. and **Chen et al.** do not expressly teach that the data history parameters comprise at least one of data formats. **Mikurak** teaches that the data history parameters comprise at least one of data formats (CL29, L52-57).

16. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Billemaz et al.** (U.S. Patent Application 2004/0093197) in view of **Guiberson et al.** (U.S. Patent 6,088,029), and further in view of **Herbrich et al.** (U.S. Patent Application 2004/0266526).

16.1 As per claim 27, **Billemaz et al.** and **Guiberson et al.** teach the method of claim 19. **Billemaz et al.** and **Guiberson et al.** do not expressly teach directing a buffering mode to be utilized during data collection from one of a circular buffering mode, a finite buffering mode, and a buffer extension mode by executing a data buffering mode function. **Herbrich et al.** teaches directing a buffering mode to be utilized during data collection from one of a circular buffering mode, a finite buffering mode, and a buffer extension mode by executing a data buffering mode function (Fig. 3; Page 3, Para 0041, L1-6 and L9-15; Page 3, Para 0042, L1-2; Fig. 5; Pages 3 and 4, Para 0046).

17. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Billemaz et al.** (U.S. Patent Application 2004/0093197) in view of **Guiberson et al.** (U.S. Patent 6,088,029), and further in view of **Chen et al.** (U.S. Patent 5,684,945).

13.1 As per claim 28, **Billemaz et al.** and **Guiberson et al.** teach the method of claim 19. **Billemaz et al.** and **Guiberson et al.** do not expressly teach a user utilizing a scroll function to scroll through previously collected data while the dynamic system model is operating. **Chen et al.** teaches a user utilizing a scroll function to scroll through previously collected data while the dynamic system model is operating (CL23, L40-46; CL23, L32-34).

18. Claims 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Billemaz et al.** (U.S. Patent Application 2004/0093197) in view of **Guiberson et al.** (U.S. Patent 6,088,029), and further in view of **Eryilmaz et al.** (U.S. Patent Application 2003/0122826).

18.1 As per claim 33, **Billemaz et al.** and **Guiberson et al.** teach the method of claim 19. **Billemaz et al.** does not expressly teach that the two or more data modules are virtually formed using at least one of MATLAB, JAVA, C++, and object-oriented code. **Eryilmaz et al.** teaches that the two or more data modules are virtually formed using at least one of MATLAB, JAVA, C++, and object-oriented code (Page 1, Para 0013, L4-8; Page 2, Para 0026, L8-16; Page 2, Para 0028, L1-6; Page 3, Para 0031, L1-5).

Per claim 34: **Billemaz et al.** does not expressly teach that the two or more data modules provide displays in the form of at least one of textual, graphical, multi-dimensional, oscilloscope, and spectrum analyzer. **Eryilmaz et al.** teaches that the two or more data modules provide displays in the form of at least one of textual, graphical, multi-dimensional, oscilloscope, and spectrum analyzer (Page 3, Para 0031, L1-5; Page 1, Para 0002, L3-6; Page 1, Para 0009, L3-7; Page 2, Para 0026, L3-7 and L17-19; Page 3, Para 0038).

19. Claims 53, 57-58, 60, 65-66, 68-69 and 70 rejected under 35 U.S.C. 103(a) as being unpatentable over **Eryilmaz et al.** (U.S. Patent Application 2003/0122826) in view of **Billemaz et al.** (U.S. Patent Application 2004/0093197).

19.1 As per claim 53, **Eryilmaz et al.** teaches a computer-implemented method for controlling collection of data generated by a dynamic system (Fig. 1, Items 12, 18 and 22; Page 1, Para 0005, L1-3; Page 2, Para 0023; Page 4, Para 0045, L1-7), comprising:

providing the dynamic system (Fig. 1, Items 12; Page 2, Para 0023);

providing a controller system separate from the dynamic system on a computer system (Page 2, Para 0024, L1-7), the controller system including:

activating the dynamic system, thereby generating data (Fig. 1, Items 16; Page 2, Para 0023; Page 2, Para 0024, L1-7; Page 4, Para 0045, L1-7); and

the controlling performed using the at least one controller (Page 2, Para 0024, L1-7).

Eryilmaz et al. does not expressly teach at least two data modules, the data modules communicatively coupled to collect data from the dynamic system. **Billemaz** teaches at least two data modules, the data modules communicatively coupled to collect data from the dynamic system (Abstract, L1-2; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15).

Eryilmaz et al. does not expressly teach one or more functions, the one or more functions executed by at least two of the data modules, and at least one controller controlling two or more of the data modules. **Billemaz** teaches one or more functions, the one or more functions executed by at least two of the data modules (Page 1, Para 0001, L3-12; Page 1, Para 0011, L1-3 and L8-11), and at least one controller controlling two or more of the data modules (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15).

Eryilmaz et al. does not expressly teach controlling two or more of the data modules to simultaneously execute at least one of the functions to achieve synchronization of at least one of collection or analysis of the generated data at a point in time. **Billemaz** teaches controlling two or more of the data modules to simultaneously execute at least one of the functions to achieve

synchronization of at least one of collection or analysis of the generated data at a point in time (Abstract, L2-11; Page 1, Para 0004, L1-9; Page 1, Para 0010, L9-15).

Per claim 57: **Eryilmaz et al.** does not expressly teach that the at least one of the functions includes a suspend function, and where the controlling simultaneously executes the suspend function at the two or more data modules to synchronously pause collection of the generated data by the controlled data modules while the dynamic system continues to operate. **Billemaz et al.** teaches that the at least one of the functions includes a suspend function (Abstract, L5-11), and where the controlling simultaneously executes the suspend function at the two or more data modules to synchronously pause collection of the generated data by the controlled data modules (Abstract, L2-11; Page 1, Para 0011, L3-11; Page 2, Para 0016, L1-6; Para 0019, L7-16), while the dynamic system continues to operate (Page 2, Para 0012, L7-9).

Per claim 58: **Eryilmaz et al.** does not expressly teach that providing an interface having a communication port for communicating with each of the two or more data modules. **Billemaz et al.** teaches providing an interface having a communication port for communicating with each of the two or more data modules (Abstract, L1-2 and 7-11; Fig. 2, Item 275; Page 1, Para 0010, L9-11; Para 0011, L3-8; Page 2, Para 0019, L1-3 and L10-16).

Per claim 60: **Eryilmaz et al.** does not expressly teach defining data history parameters utilizing a data history function. **Billemaz et al.** teaches defining data history parameters

utilizing a data history function (Abstract, 7-16; Fig. 2, Item 275; Page 1, Para 0010, L1-3; Para 0011, L6-15).

Per claim 65: **Eryilmaz et al.** does not expressly teach synchronizing the two or more data modules comprises conveying to the selected of the two or more data modules a direction to synchronize execution of one or more functions at the selected of the two or more data modules by utilizing a broadcasting function. **Billemaz et al.** teaches synchronizing the two or more data modules comprises conveying to the selected of the two or more data modules a direction to synchronize execution of one or more functions at the selected of the two or more data modules by utilizing a broadcasting function (Page 2, Para 0019, L4-16).

Per claim 66: **Eryilmaz et al.** does not expressly teach utilizing an event based trigger to initiate a data module action. **Billemaz et al.** teaches utilizing an event based trigger to initiate a data module action (Page 1, Para 0004, L3-9; Page 1, Para 0010, L8-11; Page 1, Para 0011, L1-7; Page 2, Para 0020, L4-7).

19.2 As per claim 68, **Eryilmaz et al.** and **Billemaz et al.** teach the method of claim 53. **Eryilmaz et al.** teaches that the two or more data modules are virtually formed using at least one of MATLAB, JAVA, C++, and object-oriented code (Page 1, Para 0013, L4-8; Page 2, Para 0026, L8-16; Page 2, Para 0028, L1-6; Page 3, Para 0031, L1-5).

Per claim 69: **Eryilmaz et al.** teaches that the two or more data modules provide displays in the form of at least one of textual, graphical, multi -dimensional, oscilloscope, and spectrum analyzer (Page 3, Para 0031, L1-5; Page 1, Para 0002, L3-6; Page 1, Para 0009, L3-7; Page 2, Para 0026, L3-7 and L17-19; Page 3, Para 0038).

Per claim 70: **Eryilmaz et al.** teaches that the dynamic system is at least one of a virtual system and a physical system (Fig. 1, Items 28 and 46; Page 1, Para 0005, L1-3; Page 1, Para 0012; Page 1, Para 0015; Page 2, Para 0023, L6-9; Page 3, Para 0037, L3-10; Page 4, Para 0047, L1-15; Page 2, Para 0023; Page 4, Para 0045, L1-7).

20. Claims 54-56, 59, 64 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Eryilmaz et al.** (U.S. Patent Application 2003/0122826) in view of **Billemaz et al.** (U.S. Patent Application 2004/0093197), and further in view of **Guiberson et al.** (U.S. Patent 6,088,029).

20.1 As per claim 54, **Eryilmaz et al.** and **Billemaz et al.** teach the method of claim 53. **Billemaz et al.** teaches the controlling simultaneously executes the function at the two or more data modules synchronously (Abstract, L2-11; Page 1, Para 0004, L1-9; Page 1, Para 0010, L9-15); the dynamic system continues to execute and the generated data continues to be collected by the controlled data modules (Page 2, Para 0012, L7-9).

Eryilmaz et al. and **Billemaz et al.** do not expressly teach the at least one of the functions includes a snapshot function; and where the controlling simultaneously executes the

snapshot function at the two or more data modules to synchronously freeze a display of data collected by the controlled data modules, the freezing occurring while the dynamic system continues to execute. **Guiberson et al.** teaches the at least one of the functions includes a snapshot function; and where the controlling executes the snapshot function at the data modules to freeze a display of data collected by the controlled data modules, the freezing occurring while the dynamic system continues to execute (Abstract; Fig. 4, Item 410; CL1, L22-29; CL4, L58-62; CL5, L20-28).

20.2 As per claim 55, **Eryilmaz et al., Billemaz et al.** and **Guiberson et al.** teach the method of claim 2. **Billemaz et al.** teaches that data continues to be collected (Page 2, Para 0012, L7-9).

Eryilmaz et al. and **Billemaz et al.** do not expressly providing the display of data collected without updating the display. **Guiberson et al.** teaches providing the display of data collected without updating the display (Abstract, L1-4; Fig. 4, Item 410; CL1, L22-29; CL4, L58-62; CL5, L20-28).

Per claim 56: **Eryilmaz et al.** and **Billemaz et al.** do not expressly teach manipulating the display of data collected while data continues to be collected. **Guiberson et al.** teaches manipulating the display of data collected while data continues to be collected (Abstract, L1-4; Fig. 4, Item 415; CL1, L36-38).

Per claim 59: **Billemaz et al.** teaches data collected by the two or more data collection instruments (Abstract, L2-11; Page 1, Para 0004, L1-9; Page 1, Para 0010, L9-15). **Eryilmaz et**

al. and **Billemaz et al.** do not expressly teach directing a review of data collected by utilizing a review function. **Guiberson et al.** teaches directing a review of data collected by the two or more data collection instruments by utilizing a review function (Abstract; Fig. 4, Item 415; CL1, L36-38).

20.3 As per claim 64, **Eryilmaz et al.** and **Billemaz et al.** teach the method of claim 53. **Billemaz et al.** teaches a time tracking function that indicates of a time history of data collected (Abstract, 7-16; Fig. 2, Item 275; Page 1, Para 0010, L1-3; Para 0011, L6-15). **Eryilmaz et al.** and **Billemaz et al.** do not expressly teach providing a time tracking function that directs a graphical display indication of a time history of data collected. **Guiberson et al.** teaches function that directs a graphical display indication of a time history of data collected (Abstract, L1-4; Fig. 4, Item 415; CL1, L36-38).

Per claim 67: **Eryilmaz et al.** and **Billemaz et al.** do not expressly teach that the simulation environment comprises at least one of a graphical, textual, data flow, time based, and event based environments. **Guiberson et al.** teaches that the simulation environment comprises at least one of a graphical, textual, data flow, time based, and event based environments (Abstract, L1-4; Fig. 2; Fig. 3; CL1, L36-38: It is inherent that simulations produce event based and time based data).

21. Claim 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Eryilmaz et al.** (U.S. Patent Application 2003/0122826) in view of **Billemaz et al.** (U.S. Patent Application

2004/0093197), and further in view of **Chen et al.** (U.S. Patent 5,684,945) and **Mikurak** (U.S. Patent 7,130,807).

21.1 As per claim 61, **Eryilmaz et al.** and **Billemaz et al.** teach the method of claim 60. **Billemaz et al.** teaches the data history parameters comprise at least one of amount of memory allocation for storing data history (Page 1, Para 0002, L1-3).

Eryilmaz et al. and **Billemaz et al.** do not expressly teach the data history parameters comprise at least one of amount of data history, types of data collected, signal attributes. **Chen et al.** teaches the data history parameters comprise at least one of amount of data history (CL23, L25-30), types of data collected, signal attributes (CL23, L31-36).

Eryilmaz et al, Billemaz et al. and **Chen et al.** do not expressly teach that the data history parameters comprise at least one of data formats. **Mikurak** teaches that the data history parameters comprise at least one of data formats (CL29, L52-57).

22. Claim 62 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Eryilmaz et al.** (U.S. Patent Application 2003/0122826) in view of **Billemaz et al.** (U.S. Patent Application 2004/0093197), and further in view of **Herbrich et al.** (U.S. Patent Application 2004/0266526).

22.1 As per claim 62, **Eryilmaz et al.** and **Billemaz et al.** teach the method of claim 53. **Eryilmaz et al.** and **Billemaz et al.** do not expressly teach directing a buffering mode to be utilized during data collection from one of a circular buffering mode, a finite buffering mode, and a buffer extension mode by executing a data buffering mode function. **Herbrich et al.**

teaches directing a buffering mode to be utilized during data collection from one of a circular buffering mode, a finite buffering mode, and a buffer extension mode by executing a data buffering mode function (Fig. 3; Page 3, Para 0041, L1-6 and L9-15; Page 3, Para 0042, L1-2; Fig. 5; Pages 3 and 4, Para 0046).

23. Claim 63 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Eryilmaz et al.** (U.S. Patent Application 2003/0122826) in view of **Billemaz et al.** (U.S. Patent Application 2004/0093197), and further in view of **Chen et al.** (U.S. Patent 5,684,945).

23.1 As per claim 63, **Eryilmaz et al.** and **Billemaz et al.** teach the method of claim 53. **Eryilmaz et al.** and **Billemaz et al.** do not expressly teach a user utilizing a scroll function to scroll through previously collected data while the dynamic system model is operating. **Chen et al.** teaches a user utilizing a scroll function to scroll through previously collected data while the dynamic system model is operating (CL23, L40-46; CL23, L32-34).

Response to Arguments

24. Applicant's arguments with respect to 35 USC 102 (e) and 103 (a) rejections filed on July 21, 2008 have been considered and are found to be persuasive. New art rejections are presented in this Office action. Claim rejections under 35 USC 101 are withdrawn in response to Applicants' amendments.

24.1 As per the applicant's argument that "McLean does not disclose or suggest, "controlling two or more of the data modules to simultaneously execute at least one of the functions to achieve synchronization of at least one of collection or analysis of the generated data at a point in time, the controlling performed using the at least one controller", the Examiner has used a new reference, **Billemaz et al.**

Billemaz et al. teaches controlling two or more of the data modules to simultaneously execute at least one of the functions to achieve synchronization of at least one of collection or analysis of the generated data at a point in time (Abstract, L2-11; Page 1, Para 0004, L1-9; Page 1, Para 0010, L9-15), the controlling performed using the at least one controller (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15).

24.2 As per the applicant's argument that "McLean does not disclose or suggest, "the at least one of the functions includes a suspend function, and the controlling simultaneously executes the suspend function at the two or more data modules to synchronously pause collection of the generated data by the controlled data modules while the dynamic system model continues to operate", the Examiner has used a new reference, **Billemaz et al.**

Billemaz et al. teaches that the at least one of the functions includes a suspend function (Abstract, L5-11), and where the controlling simultaneously executes the suspend function at the two or more data modules to synchronously pause collection of the generated data by the controlled data modules (Abstract, L2-11; Page 1, Para 0011, L3-11; Page 2, Para 0016, L1-6;

Para 0019, L7-16), while the dynamic system model continues to operate (Page 2, Para 0012, L7-9).

24.3 As per the applicant's argument that "McLean does not disclose or suggest, "controlling two or more of the data modules to simultaneously execute the suspend function to synchronously pause collection of the generated data by the controlled data modules while the dynamic system model continues to operate, the controlling performed using the at least one controller", the Examiner has used a new reference, **Billemaz et al.**

Billemaz et al. teaches controlling two or more of the data modules to simultaneously execute the suspend function to synchronously pause collection of the generated data by the controlled data modules (Abstract, L2-11; Page 1, Para 0011, L3-11; Page 2, Para 0016, L1-6; Para 0019, L7-16), while the dynamic system model continues to operate (Page 2, Para 0012, L7-9), the controlling performed using the at least one controller (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15).

24.4 As per the applicant's argument that "McLean does not disclose or suggest, "at least one controller to control two or more of the data modules to simultaneously execute at least one of the functions to achieve synchronization of at least one of collection or analysis of the generated data at a point in time", the Examiner has used a new reference, **Billemaz et al.**

Billemaz et al. teaches at least one controller to control two or more of the data modules (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15), to simultaneously execute at least one of the functions to achieve synchronization of at least one of collection or analysis of the generated data at a point in time (Abstract, L2-11; Page 1, Para 0004, L1-9; Page 1, Para 0010, L9-15).

24.5 As per the applicant's argument that "McLean does not disclose or suggest, "at least one controller to control two or more of the data modules to simultaneously execute the suspend function to synchronously pause collection of the generated data by the controlled data modules while the dynamic system model continues to operate", the Examiner has used a new reference, **Billemaz et al.**

Billemaz et al. teaches at least one controller to control two or more of the data modules (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15), to simultaneously execute the suspend function to synchronously pause collection of the generated data by the controlled data modules (Abstract, L2-11; Page 1, Para 0011, L3-11; Page 2, Para 0016, L1-6; Para 0019, L7-16), while the dynamic system model continues to operate (Page 2, Para 0012, L7-9).

24.6 As per the applicant's argument that "McLean and Guiberson do not disclose or suggest, "the controlling simultaneously executes the snapshot function at the two or more data modules to synchronously freeze a display of data collected by the controlled data modules, the freezing

occurring while the dynamic system model continues to execute and the generated data continues to be collected by the controlled data modules", the Examiner has used a new reference, **Billemaz et al.** with the **Guiberson et al.** reference.

Billemaz et al. teaches the controlling simultaneously executes the function at the two or more data modules synchronously (Abstract, L2-11; Page 1, Para 0004, L1-9; Page 1, Para 0010, L9-15); the dynamic system model continues to execute and the generated data continues to be collected by the controlled data modules (Page 2, Para 0012, L7-9).

Billemaz et al. does not expressly teach the controlling simultaneously executes the snapshot function at the two or more data modules to synchronously freeze a display of data collected by the controlled data modules, the freezing occurring while the dynamic system model continues to execute. **Guiberson et al.** teaches the controlling executes the snapshot function at the data modules to freeze a display of data collected by the controlled data modules, the freezing occurring while the dynamic system model continues to execute (Abstract; Fig. 4, Item 410; CL1, L22-29; CL4, L58-62; CL5, L20-28).

24.7 As per the applicant's argument that "McLean and Guiberson do not disclose or suggest, "controlling two or more of the data modules to simultaneously execute the snapshot function to synchronously freeze a display of data collected by the controlled data modules, the freezing occurring while the dynamic system model continues to execute and the generated data continues to be collected by the controlled data modules, the controlling performed using the at least one

controller", the Examiner has used a new reference, **Billemaz et al.** with the **Guiberson et al.** reference.

Billemaz et al. teaches he controlling performed using the at least one controller (Abstract, L7-11; Fig. 2, Item 255; Page 1, Para 0004, L6-9; Page 1, Para 0010, L9-15).

Billemaz et al. teaches controlling two or more of the data modules to simultaneously execute the function synchronously (Abstract, L2-11; Page 1, Para 0004, L1-9; Page 1, Para 0010, L9-15); the dynamic system model continues to execute and the generated data continues to be collected by the controlled data modules (Page 2, Para 0012, L7-9). **Billemaz et al.** does not expressly teach controlling two or more of the data modules to simultaneously execute the snapshot function to synchronously freeze a display of data collected by the controlled data modules, the freezing occurring while the dynamic system model continues to execute. **Guiberson et al.** teaches controlling the data modules to execute the snapshot function to freeze a display of data collected by the controlled data modules, the freezing occurring while the dynamic system model continues to execute (Abstract; Fig. 4, Item 410; CL1, L22-29; CL4, L58-62; CL5, L20-28).

Conclusion

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kandasamy Thangavelu whose telephone number is

571-272-3717. The examiner can normally be reached on Monday through Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez, can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Q1For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Kandasamy Thangavelu/
Examiner, Art Unit 2123
October 11, 2008